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# ONLINE CAR SELLING APPLICATION USING PAYPAL

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## **FORWARD**

Everything is challenging in the current world. I always like to accept challenge this is my passion from my childhood. So I am taking this opportunity to express my acknowledgement to all. I am really grateful to my supervisor Pirjo Prosi, without her boundless assistance the thesis would not have been finished fulfilled. Actually her teaching technique and problem solving system have inspired and taught me a lot. By using that I am trying to move forward for a better future.

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## **ABSTRACT**

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The main theme of this thesis was to develop an Online Car Selling Application Using PayPal Technology which is an ASP.NET application developed with a built-in Visual Studio environment. This application is basically organized in a bipartite in terms of functions: products (cars) and customers.

Online Car Selling Application Using PayPal Technology was devised to offer large opportunities to customers, case of selling and managing. So, the customer's data are available in terms of payment or updating: customer id, first name, and last name, address and phone number.

For the product, it gives a large view of current events to customers, regarding different properties of the products: name of cars, model of cars, year of release car, car id, order id, unit price, calculate price of cars, mileage and number of cars.

Furthermore, this application was designed to display detailed information about the products and customers in a specific order. The upgrading option is used for the application, only by the administrator to update and delete products and customer in terms of management.

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Keywords      ASP.NET, SQL, HTML, online car selling application using PayPal

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## 1. INTRODUCTION

Online shopping is familiar to the developed countries throughout the world. Now-a-days it is being introduced among the developing countries all over the world. It is the framework of electronic commerce business that allows the clients to buy products from merchants through the internet by utilizing a web browser. Online shopping is becoming increasingly popular because of speed and ease of use for customers. Consumers can pay their bills in a very easy way by using their credit card or debit card over the online payment and the merchant will not be able to recover the customer payment information /1/.

Online shopping idea was first invented by an English entrepreneur in 1979. In the 20th century people used to buy their necessary products by visiting the market or shopping center. For this purpose people needed much time to visit a shop and check products physically. In the 21<sup>st</sup> century the world is moving very fast, everything is very close to our hand in the universe. Nowadays the consumers do not need to make a queue to purchase something. In online shopping the consumer goes to the website, selects a catalog, orders the catalog and an email is sent to the business organization. This system is called Business to Consumer (B2C). B2C is an internet and electronic model that denotes a financial transaction or online sale between a business and consumer. B2C is also known as business to customer /2/.

According to the statistics we can say that the numbers of online shoppers are growing. In the year 2012 as many as 65% bought something or two-thirds of the Finnish residents bought or ordered something via the web during the past year. Day by day it is being enhanced all over the world, people are also curious about online shopping for the reason that they can save their valuable time and can use their valuable time in different purposes that help them to earn a lot. /10/.

Online car selling is an interesting idea to the merchants in the world. Sometimes customers are curious to buy some product even if they do not need that kind of



product, simply because it is possible in online. If they would not have this kind of opportunity, selling would be increased so fast. Online shopping is acting like as a magic lamp and people are inspired to buy some products when they see that a new product is used by someone.

By using a credit or debit card with PayPal technology the buyers can pay their product's bill. The commercial part of a transaction may be handled in real time and the product is shipped to a consumer nominated address. The shopping cart system is a simple system which allows the off line administration of products and categories.

The online buyers are attracted to online shopping by high levels of satisfaction, selections, pricing and huge amount of information throughout the world. When the online consumers see attractive goods on the website from the seller then the retailers use shopping cart software to accept numerous components compiled by the customers and to fix capacities. Although the expectation of the customers is not the same, assumptions of different people are individuals.

## **1.1 History of Backdrop**

From the statistics we can see that people are always searching good bargains where the price will be lower compared to other shops. Online shopping has evolved since about 1990 into all aspects of human life. Now-a-days shopping is a way of determining character or personality in culture by which we buy and utilize our purchases. The modern era totally depends on technology and for that reason online users are increasing day by day. So online shopping is growing rapidly, whereas off line shopping is going to decrease constantly. Now people are buying and selling their products by using their computers. The world is changing fast and as a result people are trying to be faster than others. At the moment consumers are quite happy because they can buy their sustainable products from home by using the internet, and as a result they are able to save their valuable time and they can save themselves from

different kind problems just by using online shopping. They are feeling comfortable with the online shopping such as the Online Car Selling application. Brick and mortar retailers are relying on their wireless mobile systems to enable more effective management to their supply chain warehouse and shipping environment /5/.

## **1.2 Characterization**

Every topic has a particular turning point; the root purpose of this thesis was to make a web application which will be online based web application by using PayPal technology. Here customer will be able to visit our website and check the product details, freely register and access many times. The administrator has a right to manage everything that is to edit information of products, to delete products, to see registered customers. This kind of editing, deleting, updating is maintained by database management system.

By using this database management system we will be able to see the user information whenever they insert data during registration, booking products and so on. All information will be saved in the database. The database management systems are the evitable part in software of a computer that can connect users with other applications and database itself to capture and analyze data. This will be happen after submitting customer orders through our website.

## **2. HELPING TOOLS AND LANGUAGES**

To build this project ASP.NET (Visual Studio 2013 C#), SQL Server Express LocalDB and JQuery was used.

### **2.1 History of ASP.NET**

Back in the mid '90s, when the commercial Web world was still young, there was not a great deal of choice of tools for the web developer who wanted to make his or her Web site a truly useful place to do business. Mark Anders and Scott Guthrie of Microsoft invented first version of ASP in 1996. ASP.NET is a web application framework which is designed for web development to produce dynamic web pages. It is an open source server side web technology. It is first released in January 2002 with version 1.0. Nowadays it is being re-implemented as a modern and modular web framework together with other frameworks, such as entity framework. It is closely based on HTML. Microsoft has included in the .NET framework an incredibly rich feature set of library classes, from network-handling functions for dealing with Transmission Control Protocol/Internet Protocol (TCP/IP) Domain Name System (DNS) to graphic drawing /4/.

#### **2.1.1 ASP.NET**

To work with Visual Studio 2013 is very simple and ASP.NET is part of this. It is very updated and modern tool to the programmers throughout the world. Simply ASP.NET web form is pages that are based on Microsoft ASP.NET technology. It is a rich set of built in functionality. When a programmer runs his project, it goes through a life cycle that performs a series of processing steps. The familiarity of ASP.NET is being increased day by day. The official name of web pages is web form that has extension .aspx. ASP.NET works with the Internet Information Server (IIS) to deliver content in response to client requests.

## **2.2 JQuery**

In the project JQuery which was a very fast and concise JavaScript library that clarifies HTML document bisecting, event handling, animating, and Ajax interactions for rapid web development. The JavaScript library is included in the ASP.NET Web forms application template as a NuGet package.

## **2.3 HTML**

To publish information for global distribution in this web application HTML language was used to make header, title, table and so on. HTML stands for Hyper Text Markup Language that is used World Wide Web. HTML is a kind of language that is utilized with all the programming languages for web application. It has been developed with mechanisms for style sheets, scripts and frames. HTML is being used to build web application more accessible.

## **2.4 SQL Database**

SQL is a Structured Query Language which is used as a computer language to store, manipulate and retrieve data that is stored in relational database. It is a standard language for relational database system. Relational database systems like MySQL, Oracle and SQL server uses SQL database as a standard language. SQL allows users to access data in the relational management system. It describes, manipulates data and it allows the user to define data and manipulate data and creates and drop database and tables. In a single word database is a set collection of information that is well organized and can be accessed freely.

## 2.5 PayPal Technology

PayPal is a service that allows you to transfer money, send money and receive any bill payment from one account to another account by using PayPal account or debit or credit card. PayPal technology is an international e-commerce business that allows payments and money transfer through the internet. In 1998, two men Peter Thiel and Max Levchin founded a company called Confinity. Confinity is a company where security software was developed. It was developed as a money transfer service in 1999 /7/.

PayPal is a kind of technology that is more popular to the customers recently. It does not change the way merchants interact with banks and credit card companies. It is used as a middleman. A user can login to his account by using their accounts that contains userId and password as normal but then to the user enters a six digits code provided by the credit card sized hardware security or a text message will be sent to the account holder's mobile phone. Then the user may append with that code and can login with their userID and password in the login screen. But credit card sized hardware security is not free where as security code received by account holder's mobile phone that is free. To open a PayPal account go to PayPal website click on sign up link then fill all information very carefully and finally click on continue, this is the system to open a PayPal account. If you want to close the PayPal account, first you need to login then withdraw all money from your account and then click on profile, click on my setting, close account and follow the instruction properly.

### 3. DESCRIPTION OF ONLINE CAR SELLING USING UML

For Online Car Selling application we have used registration, login, adding new car and selling car pages. To draw the figure we have used UML. UML stands for Unified Modeling Language and it is a general purpose modeling language in the field of Software Engineering designed to provide a standard way to visualize the system of design. UML is unique and it has a standard representation. Explanation for it is given below.

#### 3.1 Description of Background

Online Car Selling is a web based application which is used to visualize as a bipartite in terms of interface. In the application we have used two interfaces named as Client interface and Administrator interface. The figure is given below.

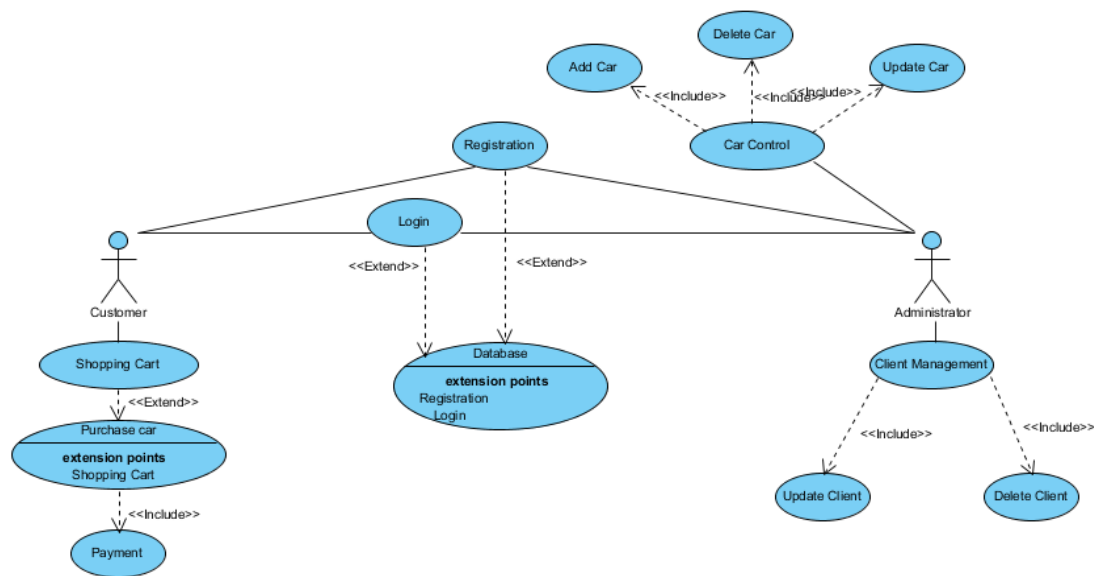


Figure 1. Use case diagram

From the above figure we can see that everybody has to be registered first into online car selling application then they can be login. The administrator has right to handle, to

a add car, a delete car and to update cars by using the Car control and he has the right to update a client and delete a client by using the Client management. The Customer can purchase a car by using a shopping cart then they need to fill the payment field also.

### 3.1.1 Administrator Login

To login into the Online Car Selling application we need two properties, Username and Password. When connected to the background management platform that is to URL then the administrator login page will be displayed and will ask the username and password, according to the administrator views on the management page. The original username and password has been pre-set to database during the registration.

## 3.2 Foreground Administrator Page

As mentioned before the administrator management provides an interface that is known as administrator interface which is being to manipulate the client interface and products interface that is the car interface. The figure is shown below.

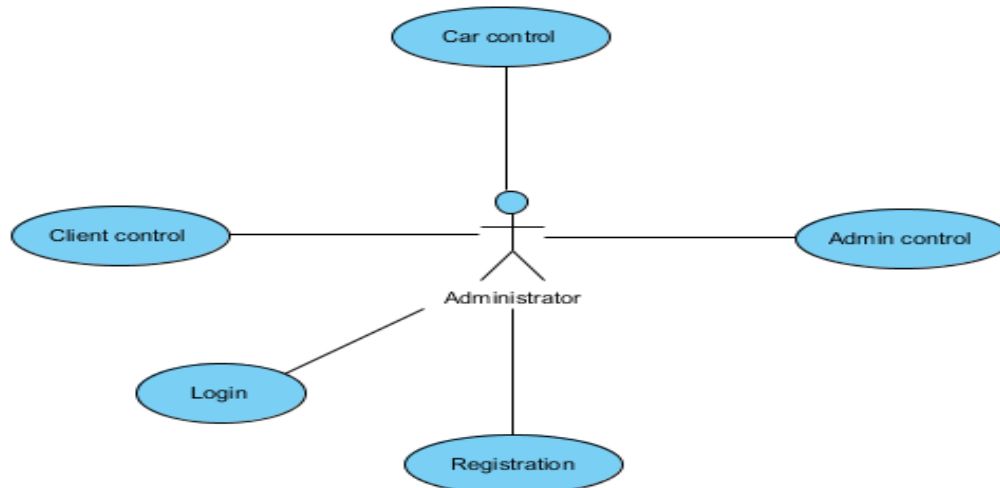


Figure 2. Use case diagram for Administrator Interface

### **3.2.1 Admin Control**

There are two properties in the admin control named Username and Password. When the management option is clicked then you will be possible to see the admin interface. In the admin control section the administrator plays an important role in the Online Car Selling Application for example by adding a car, deleting a customer, deleting a car and updating information.

### **3.2.2 Car Control**

There are three properties in the Car Control section named add car, update car, delete car which are controlled by the administrator. After logging the car option is clicked and then it will be possible to see the list of car information. After login by the administrator then there is a link to the car information, by clicking on it, then the available car page will be displayed. There are two links named edit and delete options. By clicking on those links we can update the car information page. However, there is another link: add a new car, by clicking on it then all information is filled carefully and clicking on the save buttons the administrator can add a new car in the Online Car Selling application. To complete this task the user must be admin.

### **3.2.3 Customer Control Or Management**

There are two options in the customer properties, customer update and customer delete. After the administrator signs in, there is a link named registered customer. By clicking on that link the registered customer page will be displayed, on that page there are two links, edit and delete. By clicking those links it is possible to update a customer and delete a customer or client from the registered customer page. Without being an administrator it is not possible at all.



### 3.3 Foreground of Customer Interface

As mentioned before the Client interface provides for the customers a virtual Online Car Selling web application to buy cars. By using a shopping cart every customer can buy their demanded car after signing in. The figure is given below.

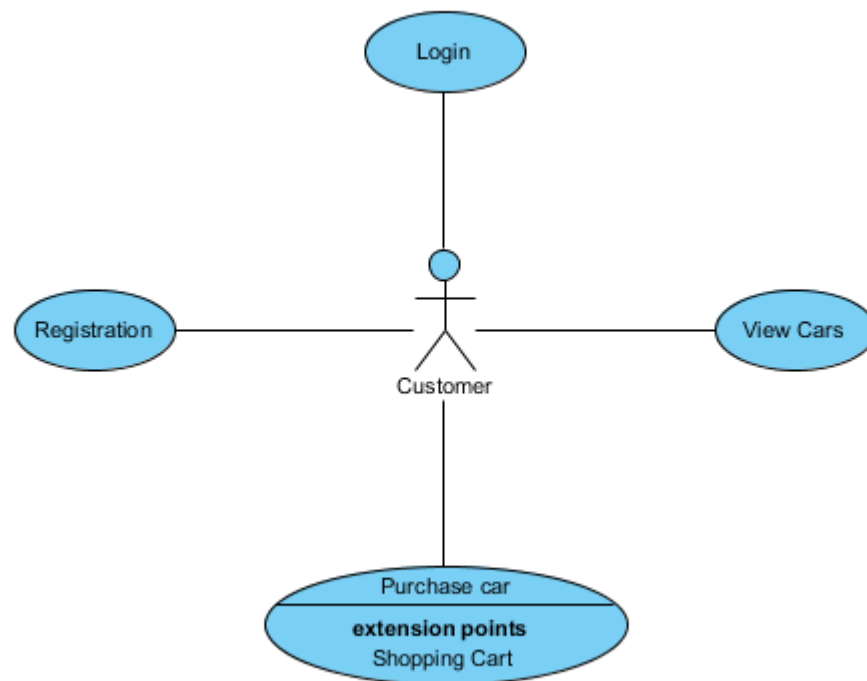


Figure 3. Use Case Diagram for Customer Interface

#### 3.3.1 Cars or View Cars

Without registering anybody can visit the Online Car Selling Application because of accessing free. In our application there is a link button named car. By using this link button the customer will be able to visit the car page. By using this link customers can see all information about cars which we can call the car catalog. In the car catalog

contains car name, model, engine size, price, warranty, country, mileage, number of cars, product id and preview. From this page customer can choose their preference.

### **3.3.2 Shopping Cart**

After visiting the view cars page then the consumer can make a decision which one he is going to purchase. When he has reached in decision, then he can visit shopping cart page which is used to sell cars. In the shopping cart page we can see the car name, product id, price and quantity. On the shopping cart page the consumer has to fill in the quantity box, after that there is one button named Order. When clicking this button our application will display a number of selected items and the total price on the screen. Before making an order, every customer has to login first.

### **3.3.3 Purchase and Transaction System**

When the customer finishes using the shopping cart, then they can click on PayPal checkout button to pay the bill. When PayPal button is clicked, then the order is sent to the PayPal and PayPal will display the order summary including the items and the total price with the heading of Online Car Selling Application. On the same page in right side customers will see the Choose the way to pay side of PayPal. If customers have a PayPal account, they can use that account to pay the bill.

Actually, for paying bill customers do not need to have a PayPal account, they can utilize another option and pay with a debit or credit card to pay the bill. The customers who have the PayPal accounts can pay their bill by using their account where they have to use their email and PayPal password.

But the customers who do not have any PayPal account need to click 'Pay with your debit or credit' link. After clicking and paying the bill with a debit or credit link, it

will move to the customer details page, There customers have to fill in all information very carefully and also have to put bank card number and csc number. After putting all information correctly, the system will show the agree and continue button.

After completing any option the customer will visit the following order review page. On this page customers will be able to see the details of their order with their shipping address. After checking the order review, they can click on the 'Complete order' button. Finally they will be able to see the thanks message and transaction id. Thus the customer can buy any car from the Online Car Selling Application by using PayPal technology. This has been explained in more details in the screen shots in the next section.

### **3.4 Sequence Diagram**

The sequence diagram is part of UML. Sequence diagrams are interaction diagrams that detail how operations are carried out in the project. The interaction diagrams model is very important runtime interactions between the parts that make up the system. It captures the interaction between objects in the context of collaboration. It shows object instances that play important roles. Sequence diagrams do not show structural relations between objects. /6/.

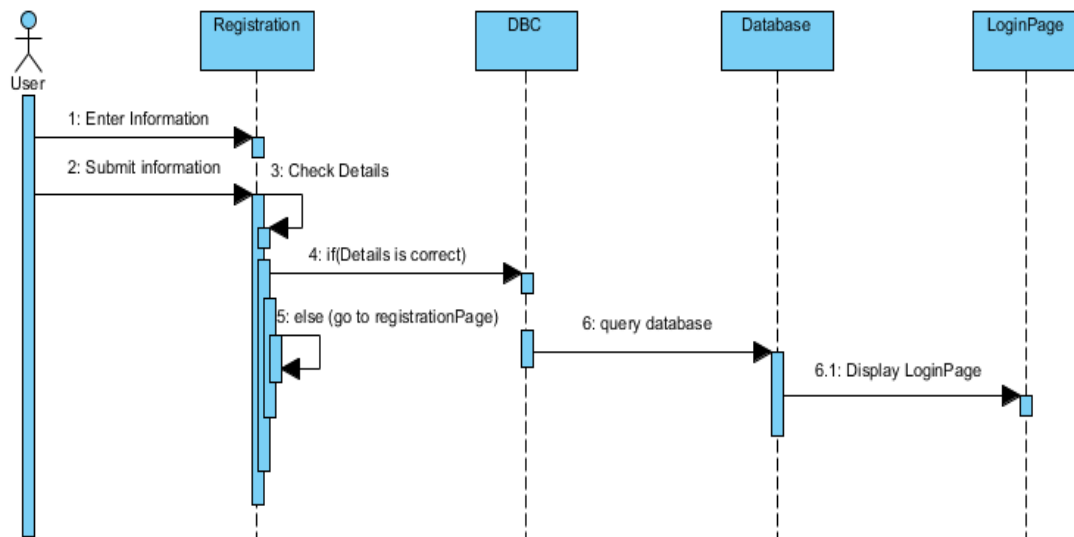


Figure 4. Sequence Diagram

From the above figure shows that clients enter their information and submit for registering. After submitting information, it will check the information, if details are correct then it will be sent to the DBC (Database Communication) otherwise it will show the registration page to check the information. In the DBC it will create a query database, and then it will be stored in database. After storing all information in the database then it will show the login page. When clients use their username and password, they will be able to log in.

### 3.5 Class Diagram of the Project

The class diagram is also a part of UML diagrams. The purpose of class diagram is to depict the classes within a model. In an object oriented programming classes have attributes or variables, operations or functions and relations with other classes. A UML diagram can depict all these things very easily. A class icon is simply a rectangle divided into three parts: the topmost contains class name, the middle contains list of attributes and the part bottom contains list of functions function /7/.

The following figure shows that the declaration of each parameter of different classes and it shows the relation among the classes. It also shows that after registering a customer the information will be saved in the database that will utilized to be logged in.

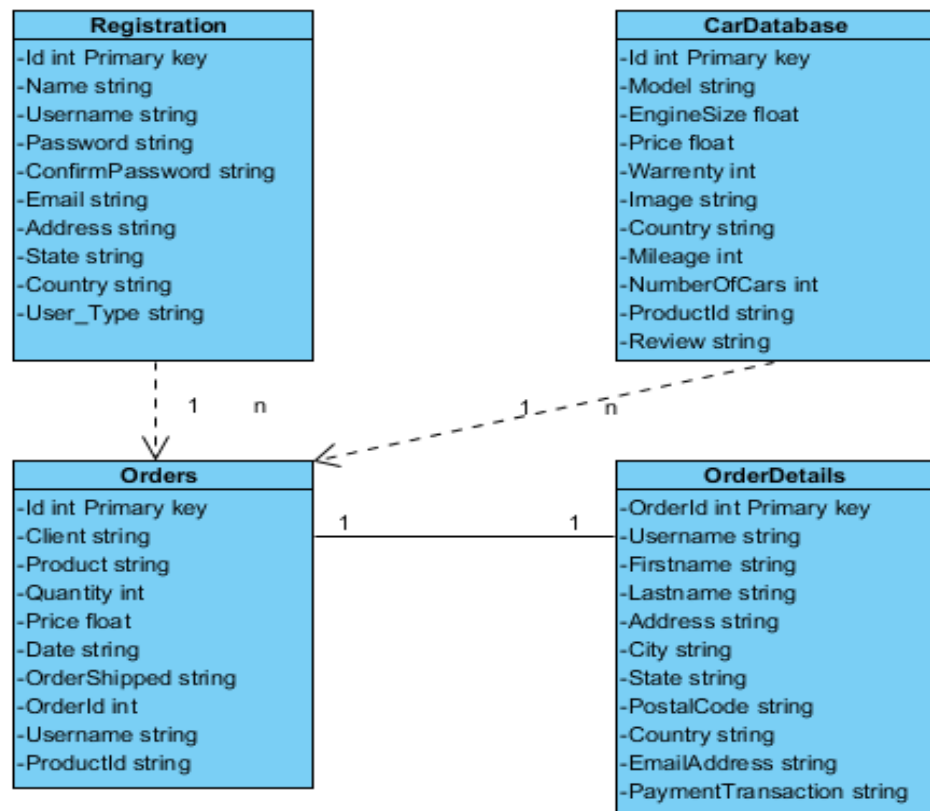


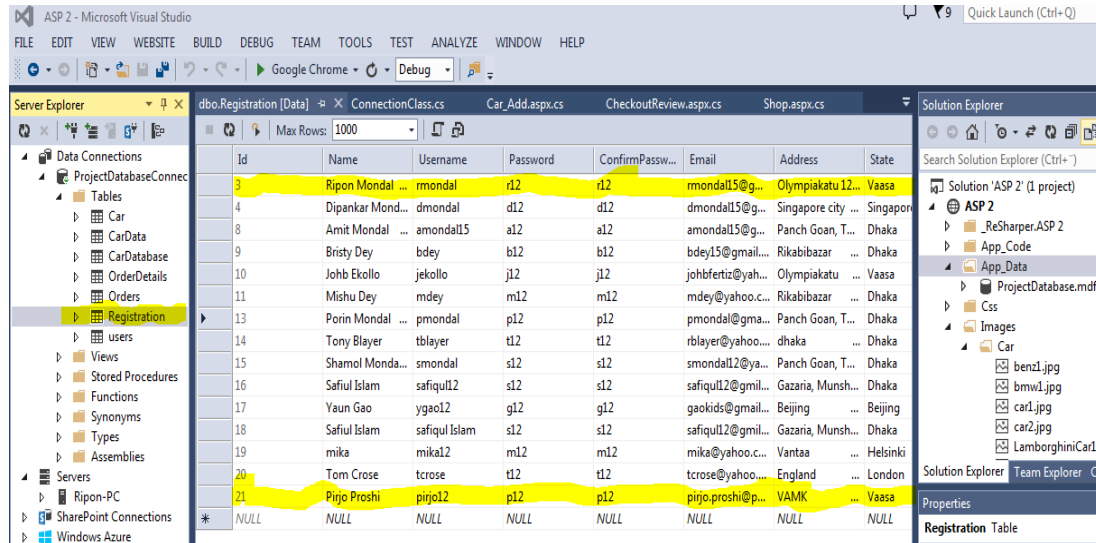
Figure 5. Class diagram for the Project

## 4. DATABASE AND GRAPHIC DESIGN

The Database Management System or DBMS has evolved from a specialized computer application to a central component of modern computing environment. We have many database management systems in the market, - many of them are friendly with Graphics User Interfaces, using which the user can execute queries and handle tables and other objects. In this section we have added Database and Graphic User Interface (GUI) that is very important part for the web application to store information and save those for the future /6/.

### 4.1 Project Database

In this project we have utilized SQL Server Database which is included with Visual Studio. We do not need another connection for the database. In the following figure we can see all the tables of the database.



Id	Name	Username	Password	ConfirmPassw...	Email	Address	State
3	Ripon Mondal	rmondal	r12	r12	rmondal15@g...	Olympiakatu 12...	Vaasa
4	Dipankar Mond...	dmondal	d12	d12	dmondal15@g...	Singapore city ...	Singapore
8	Amit Mondal	amondal15	a12	a12	amondal15@g...	Panch Goan, T...	Dhaka
9	Bristy Dey	bdey	b12	b12	bdey15@gmail...	Rikabibazar ...	Dhaka
10	Johb Ekollo	jekollo	j12	j12	johbfertiz@yah...	Olympiakatu ...	Vaasa
11	Mishu Dey	mdey	m12	m12	mdey@yahoo.c...	Rikabibazar ...	Dhaka
13	Porin Mondal	pmondal	p12	p12	pmondal@gma...	Panch Goan, T...	Dhaka
14	Tony Blayer	tblayer	t12	t12	tblayer@yahoo...	dhaka ...	Dhaka
15	Shamol Mondal...	smondal	s12	s12	smondal12@ya...	Panch Goan, T...	Dhaka
16	Safiqul Islam	safiqul12	s12	s12	safiqul12@gmil...	Gazania, Munsh...	Dhaka
17	Yaun Gao	ygao12	g12	g12	gaokids@gmail...	Beijing ...	Beijing
18	Safiqul Islam	safiqul Islam	s12	s12	safiqul12@gmil...	Gazania, Munsh...	Dhaka
19	mika	mika12	m12	m12	mika@yahoo.c...	Vantaa ...	Helsinki
20	Tom Crose	tcrose	t12	t12	tcrose@yahoo...	England ...	London
21	Pirjo Proshi	pirjo12	p12	p12	pirjo.proshi@p...	VAMK ...	Vaasa
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Figure 6: Registered Users in SQL Database

Here we can see the code layout for the Registration table. We have used this table to store all information, such as username, password, email, phone, country and so on.

The registration table contains information about the client and administrator. The code of the registration table is given below.

```
CREATE TABLE [dbo].[Registration] (  
    [Id]          INT      IDENTITY (1, 1) NOT NULL,  
    [Name]        NCHAR (20) NOT NULL,  
    [Username]    NCHAR (20) NOT NULL,  
    [Password]    NCHAR (20) NOT NULL,  
    [ConfirmPassword] NCHAR (20) NOT NULL,  
    [Email]       NCHAR (100) NOT NULL,  
    [Address]     NCHAR (100) NOT NULL,  
    [State]       NCHAR (30) NOT NULL,  
    [Country]     NCHAR (30) NOT NULL,  
    [User_Type]   NCHAR (30) NULL,  
    PRIMARY KEY CLUSTERED ([Id] ASC)  
);
```

Snippet 1. Code Registration Table

In the project we have used a Local Database named SQL Server Database and have made a connection to add .mdf file. The .mdf file is the connector or driver manager to make a connection with the database and web pages. The deployment figure is given below.

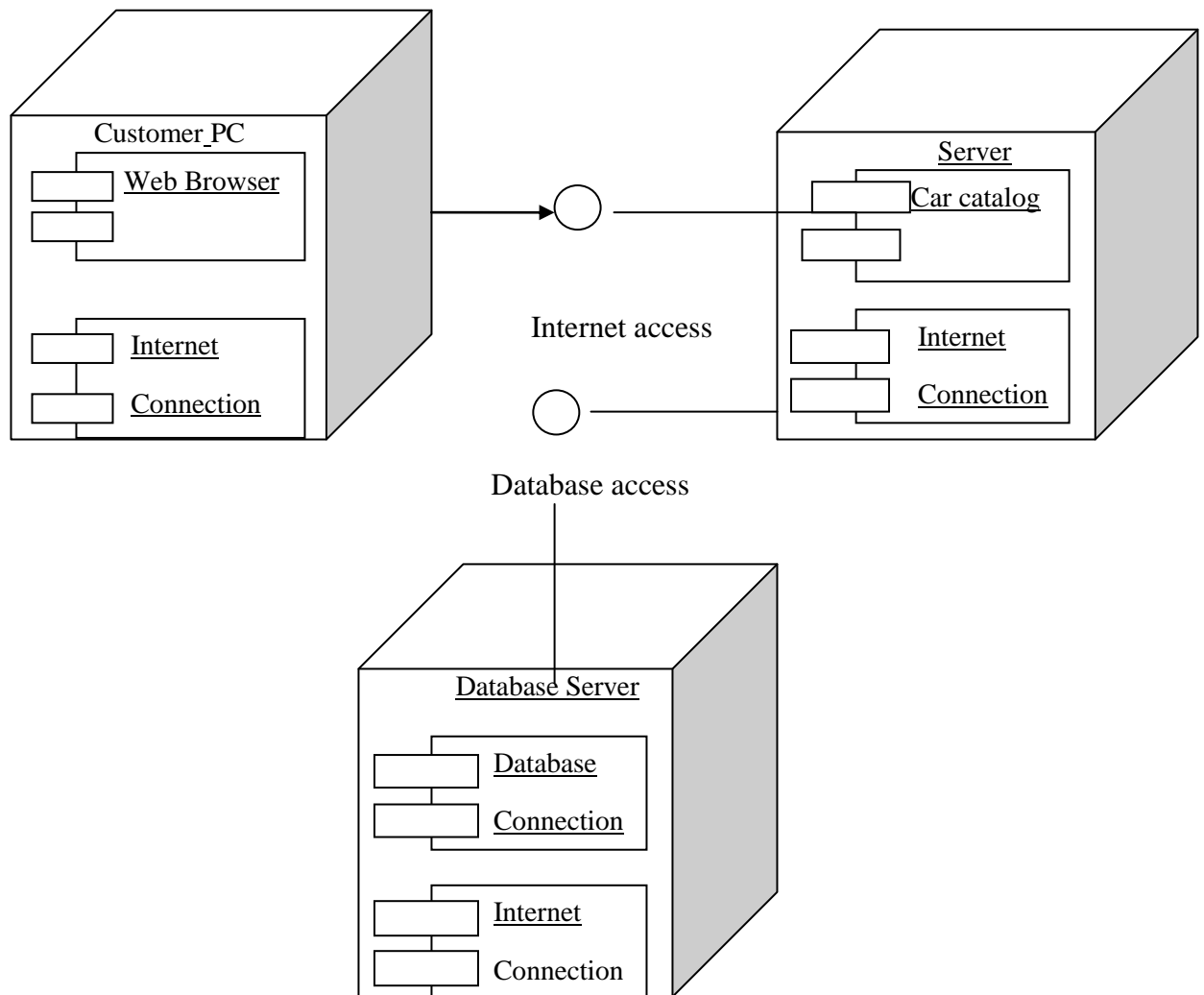


Figure 7. Deployment diagram



## 4.2 Graphic User Interface (GUI) Design

In this application working system has been divided into user interface and administrator interface. The user or consumer will only be able to visit the home page and check the product price and place an order also whereas the administrator will have all rights to add products, delete products and customers, update product information and so on. To work with our web application every client has to follow some steps that will be helpful in the registering.

### 4.2.1 Registration in GUI

The registration page was designed in ASP.NET which is linked with the SQL Server Database via a .mdf file or driver manager. Every field offers the user to put personal information. So the registration page Registration.aspx is connected with the SQL via driver manager. In the Registration.aspx page there is an option 'user\_type' that has to be filled by the user. In the application we have used two types of user, user or client type and administrator type. In the following figure the personal information of registering person is shown. Without registering the customer will not be able to login and buy any product from the Online Car Selling Application.

localhost:49339/Pages/Account/RegistrationPage.aspx

Home Car Shop About Management Registration Login

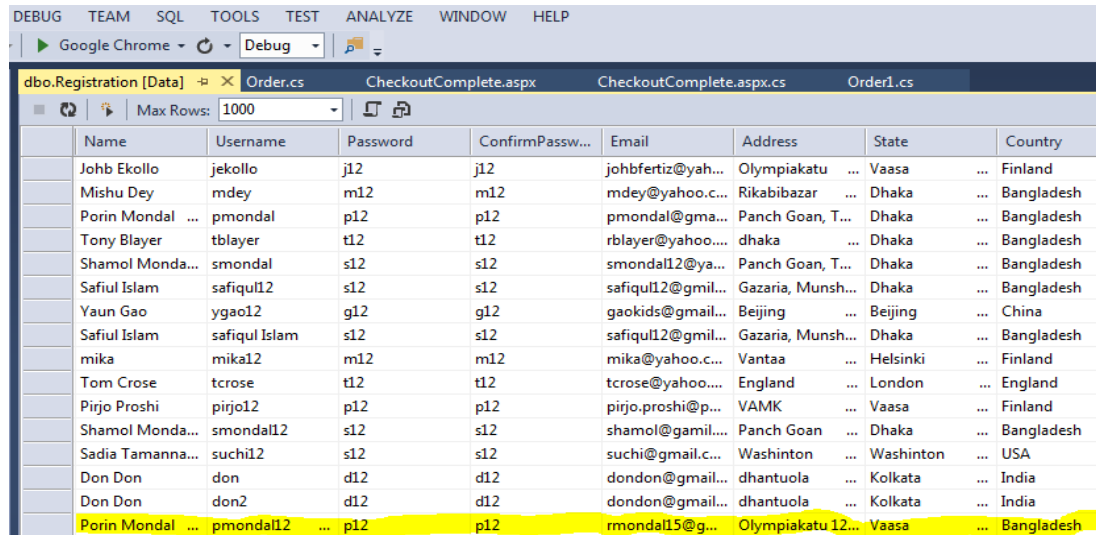
**Registration page.**

Name: Porin Mondal  
 Username: pmondal12  
 Password: ...  
 ConfirmPassword: ...  
 Email: rmondal15@gmail.com  
 Address: Olympiakatu 12-14 C 4  
 State: Vaasa  
 Country: Bangladesh  
 User\_Type: Admin

Register User has been registered!  
 Reset

Figure 8. User Registration

After putting all information correctly the register button is clicked and then all information will be stored in the database. All information about the registering person is in the registration table in the project database which is known as ProjectDatabaseConnectionString. The figure of the database is shown below.



Name	Username	Password	ConfirmPassw...	Email	Address	State	Country
Johb Ekollo	jekollo	j12	j12	johbfertiz@yah...	Olympiakatu ...	Vaasa	Finland
Mishu Dey	mdey	m12	m12	mdey@yahoo.c...	Rikabibazar ...	Dhaka	Bangladesh
Porin Mondal ...	pmondal	p12	p12	pmondal@gma...	Panch Goan, T...	Dhaka	Bangladesh
Tony Blayer	tblayer	t12	t12	rblayer@yahoo....	dhaka	Dhaka	Bangladesh
Shamol Monda...	smondal	s12	s12	smondal12@ya...	Panch Goan, T...	Dhaka	Bangladesh
Safiul Islam	safiqu12	s12	s12	safiqu12@gmil...	Gazaria, Munsh...	Dhaka	Bangladesh
Yaun Gao	ygao12	g12	g12	gaokids@gmail...	Beijing	Beijing	China
Safiul Islam	safiqu12	s12	s12	safiqu12@gmil...	Gazaria, Munsh...	Dhaka	Bangladesh
mika	mika12	m12	m12	mika@yahoo.c...	Vantaa	Helsinki	Finland
Tom Crose	tcrose	t12	t12	tcrose@yahoo....	England	London	England
Pirjo Proshi	pirjo12	p12	p12	pirjo.proshi@p...	VAMK	Vaasa	Finland
Shamol Monda...	smondal12	s12	s12	shamol@gamil...	Panch Goan	Dhaka	Bangladesh
Sadia Tamanna...	suchi12	s12	s12	suchi@gmail.c...	Washinton	Washinton	USA
Don Don	don	d12	d12	dondon@gmail...	dhantuola	Kolkata	India
Don Don	don2	d12	d12	dondon@gmail...	dhantuola	Kolkata	India
Porin Mondal ...	pmondal12	p12	p12	rmondal15@g...	Olympiakatu 12...	Vaasa	Bangladesh

Figure 9. Registering result in Database

#### 4.2.2 Login in GUI

The login page was designed in ASP.NET which is linked with the SQL Server Database via a .mdf file or driver manager. At first every client has to register, and then they will be able to login. To login every client needs to put the username and password that were used during registration. So login page, Login1.aspx is connected with the SQL via driver manager. In the following figure the login system is shown.

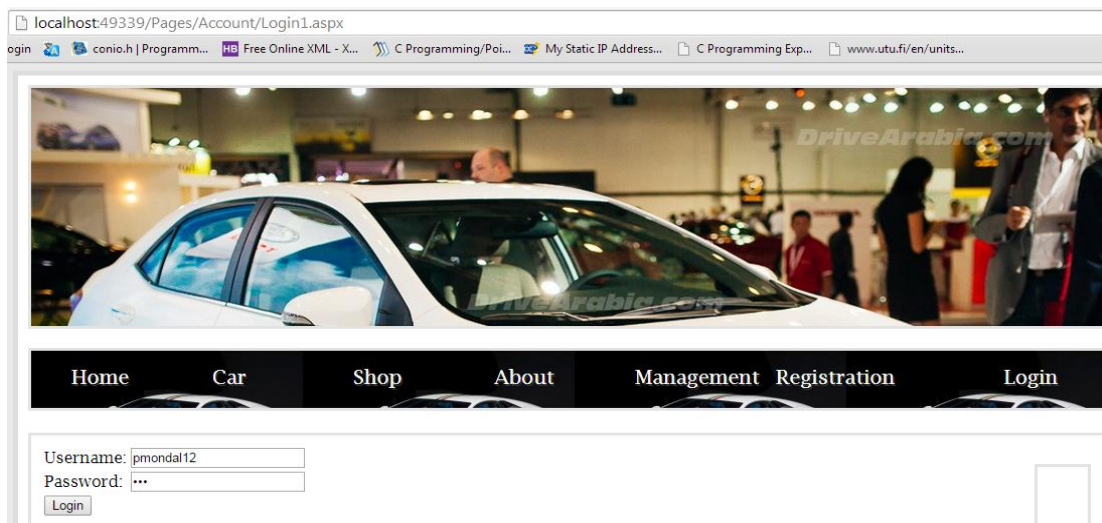


Figure 10. User Login

After putting the username and password correctly the user will be able to login. When the information is correct and validated the customer will receive a conformation message from the Login1.aspx page. The successful login result is given below.

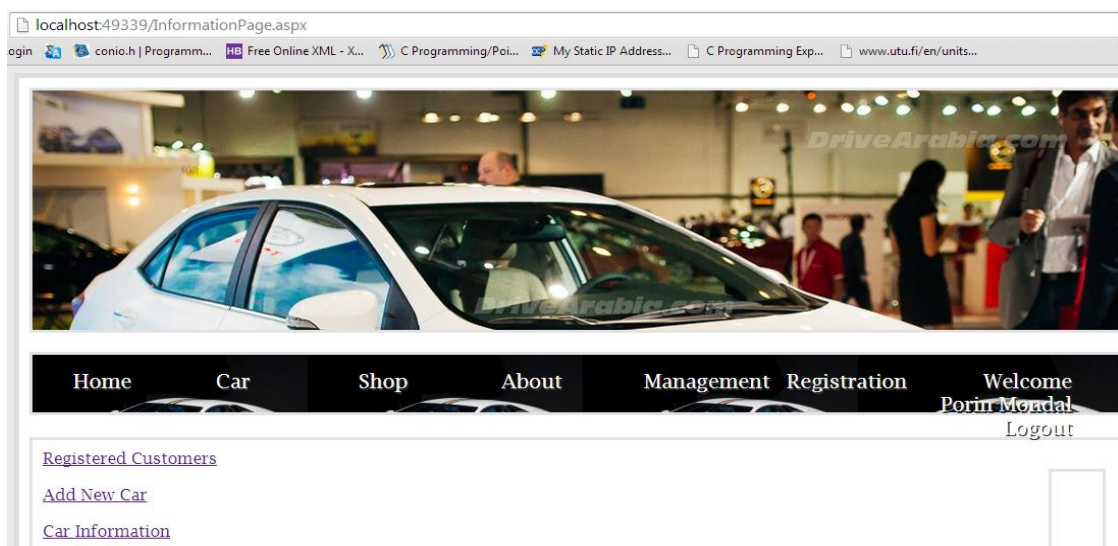


Figure 11. Conformation login

### 4.2.3 Car Details

The car page was designed in ASP.NET which is linked with the SQL Server Database via a .mdf file or driver manager. To build this page we have used the html code in Car.aspx.cs. By clicking the Car option in the Online Car Selling Application everybody will be able to see all information about the car. The Car.aspx page is connected with the SQL database; as a result all information is stored in my project database. From the car page we can select a product by selecting a car model. In the car page there are many cars but by using select module we can select the best one. The administrator can update this page by adding new a car or deleting a car and editing new information about products. The car page is given below.

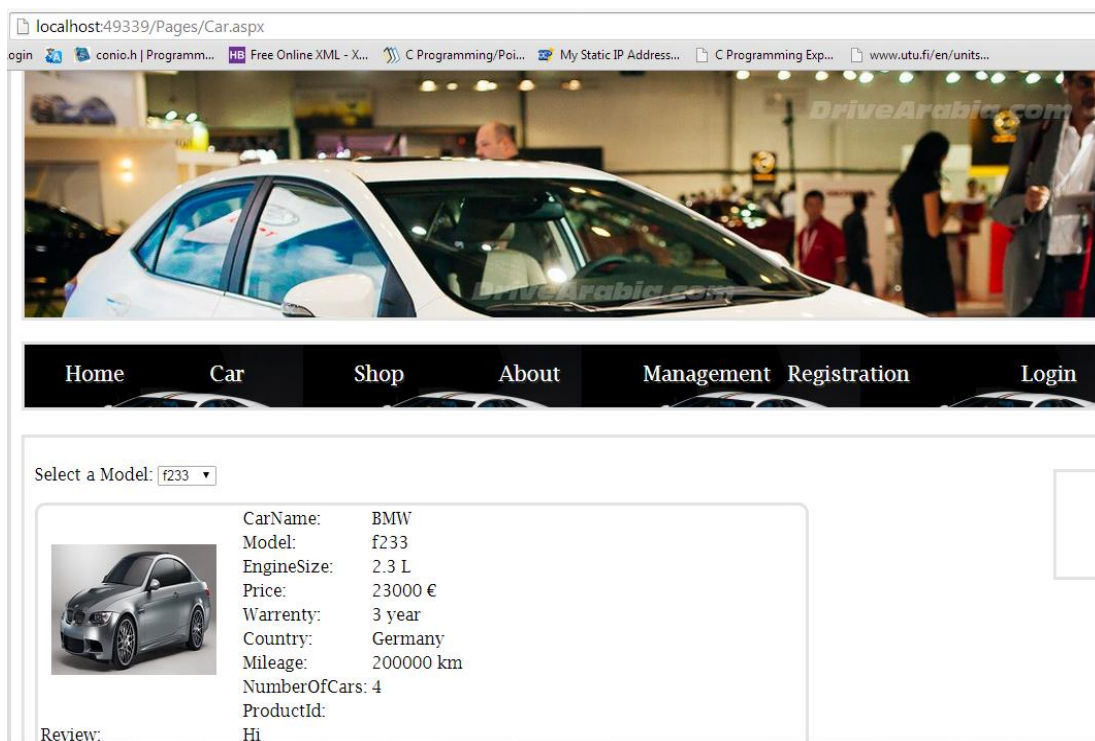


Figure 12. Car details

### 4.2.4 Car Overview

By logging in the administrator will be able to visit of all information about customers. Updating only is possible by the administrator. After login the administrator, will be able to see all information about customers and products (cars). For this part we have added a page named Car\_Overview.aspx page that is linked with the SQL database and all information is stored in the database. The administrator can add a new item, delete and edit new information about a car. All product items are given below.



	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Add New Car</a>		<u><b>Id</b></u>	<u><b>CarName</b></u>	<u><b>Model</b></u>	<u><b>EngineSize</b></u>	<u><b>Price</b></u>	<u><b>Warrenty</b></u>	<u><b>Image</b></u>	<u><b>Country</b></u>	<u><b>Mileage</b></u>	<u><b>NumberOfCars</b></u>	<u><b>ProductId</b></u>	<u><b>Review</b></u>
	<a href="#">Edit</a>	<a href="#">Delete</a>		1013	Opel Ampera	OA12	2.12	2400	2		../Images/Car/opel-ampera.jpg	Germany	250000	2	O1	Good choice.
	<a href="#">Edit</a>	<a href="#">Delete</a>		1023	Skoda Octavia	i235	2.23	2000	2		../Images/Car/skoda_octavia.jpg	India	300000	3	i23	This is good car.
	<a href="#">Edit</a>	<a href="#">Delete</a>		1024	Toyota	T21	2.25	2500	3		../Images/Car/toyota1.jpg	Japan	300000	2	t2	Wow choice to the customer.

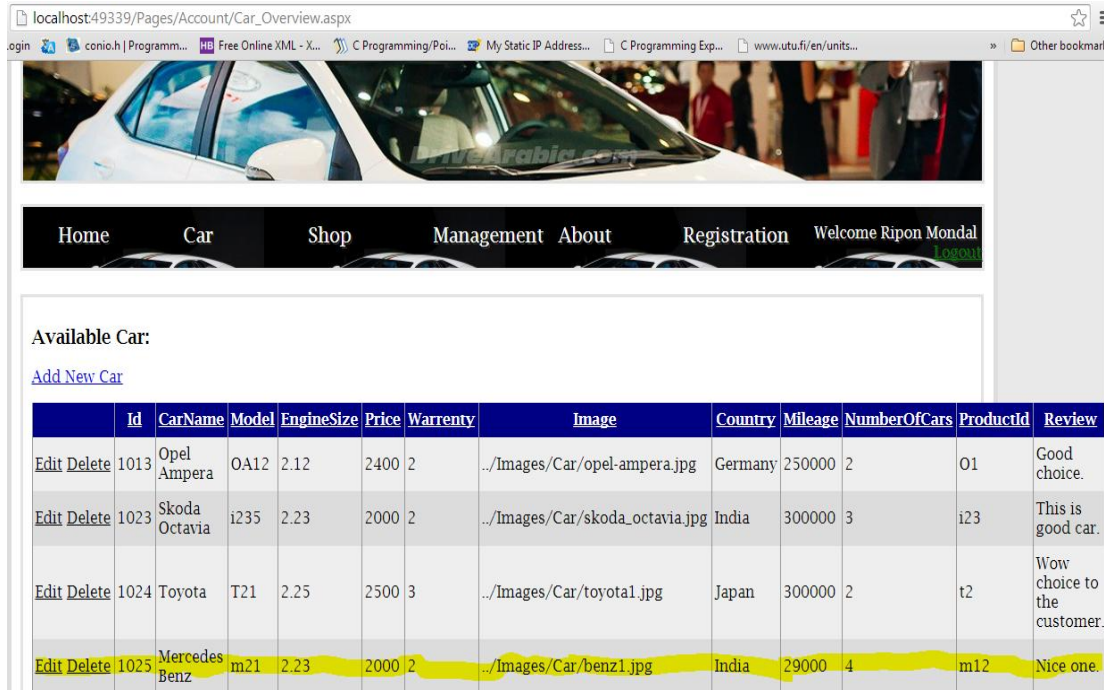
Figure 13. Available Cars

### 4.2.5 Adding Car

To add a new product we have new page named Car\_Add.aspx. This is also connected with the SQL Server database via ProjectDatabase.mdf file. After administrator login there is the 'Add new car' link by clicking it we get to 'Add new



car' page. After filling in all information properly and uploading an image then the save button is clicked we can add a new product in our application. Sometimes we need to change information. Only the administrator can click edit link and change the information and in similarly way the administrator can delete car. Add a new car function is shown below.



	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Add New Car</a>	<a href="#">Id</a>	<a href="#">CarName</a>	<a href="#">Model</a>	<a href="#">EngineSize</a>	<a href="#">Price</a>	<a href="#">Warrenty</a>	<a href="#">Image</a>	<a href="#">Country</a>	<a href="#">Mileage</a>	<a href="#">NumberOfCars</a>	<a href="#">ProductId</a>	<a href="#">Review</a>
<a href="#">Edit</a>	<a href="#">Delete</a>			1013	Opel Ampera	OA12	2.12	2400	2	../Images/Car/opel-ampera.jpg	Germany	250000	2	01	Good choice.
<a href="#">Edit</a>	<a href="#">Delete</a>			1023	Skoda Octavia	i235	2.23	2000	2	../Images/Car/skoda_octavia.jpg	India	300000	3	i23	This is good car.
<a href="#">Edit</a>	<a href="#">Delete</a>			1024	Toyota	T21	2.25	2500	3	../Images/Car/toyotal.jpg	Japan	300000	2	t2	Wow choice to the customer.
<a href="#">Edit</a>	<a href="#">Delete</a>			1025	Mercedes Benz	m21	2.23	2000	2	../Images/Car/benz1.jpg	India	29000	4	m12	Nice one.

Figure 14. Add a new car

## 4.2.6 Shopping Carts

In the Online Car Selling application there is a very crucial point that is shopping carts which are included in Shop.aspx page. This page is also connected with the SQL database. When a consumer wants to buy any product from the Online Car Selling Application, the customer needs to login first. After the click on the shop link the customer will see the shopping cart, in the shopping cart customer will be able to put the quantity of product. After putting the quantity of product he needs to click the

order button and the customer will see the total number of products and total amount on that page. The figure is given below.

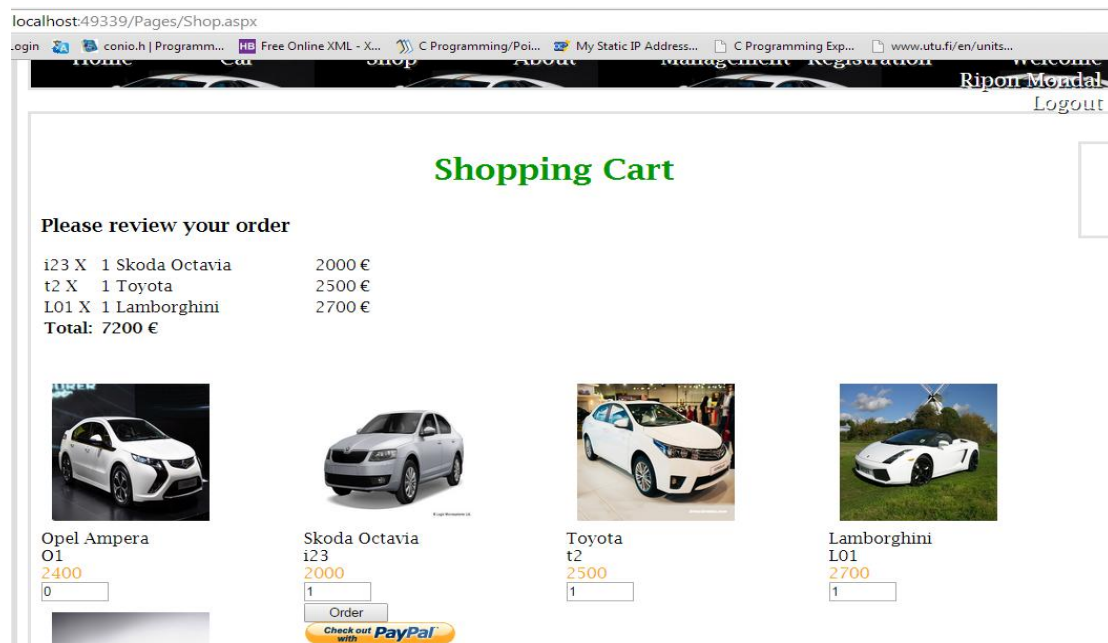


Figure 15. Shopping cart with order

On this page there is another button named checkout PayPal button, after clicking the order button, for selecting items, if the checkout PayPal button is clicked, then PayPal will send the customer order summary through PayPal sandbox. On the order summary page the customer can see the product name, quantity and total amount of price. After that customer will face payment system done by PayPal technology.

#### 4.2.6.1 Payment and Transaction System

When the customer finishes using the shopping cart he can click the PayPal checkout button to pay the bill. When PayPal button is clicked then the order is sent to the PayPal and PayPal will display the order summary including items and total price with the heading of the Online Car Selling Application. On the same page on the right side customers will see the Choose a way to pay side of PayPal. If customers have a PayPal account, they can use that account to pay the bill. The result is given below.

### Online Car Selling Application

**Your order summary**

Descriptions	Amount
Skoda Octavia Item price: \$2,000.00 Quantity: 1	\$2,000.00
Toyota Corolla Item price: \$2,500.00 Quantity: 1	\$2,500.00
Mercedes benz Item price: \$2,000.00 Quantity: 1	\$2,000.00
<b>Item total</b>	<b>\$6,500.00</b>
<b>Total \$6,500.00 USD</b>	

**Choose a way to pay**

**Pay with my PayPal account**

Log in to your account to complete the purchase

Email  
rmondal15@gmail.com

PayPal password  
\*\*\*\*\*

☒ This is a private computer. [What's this?](#)

[Log In](#)

[Forgot email or password?](#)

**Create a PayPal account**

And pay with your debit or credit card

[Cancel and return to Online Car Selling Application](#)

Figure 16: Payment using PayPal

#### 4.2.6.2 Payment with PayPal Account

The clients who have the PayPal accounts can pay their bill by using option 1 where they have to use their email and PayPal password by clicking the login button. The figure is given below.

### Online Car Selling Application

**Your order summary**

Descriptions	Amount
Skoda Octavia Item price: \$2,000.00 Quantity: 1	\$2,000.00
Toyota Corolla Item price: \$2,500.00 Quantity: 1	\$2,500.00
Mercedes benz Item price: \$2,000.00 Quantity: 1	\$2,000.00
<b>Item total</b>	<b>\$6,500.00</b>
<b>Total \$6,500.00 USD</b>	

**Choose a way to pay**

**Pay with my PayPal account**

Log in to your account to complete the purchase

Email  
rmondal15@gmail.com

PayPal password  
\*\*\*\*\*

☒ This is a private computer. [What's this?](#)

[Continue](#)

[Cancel and return to Online Car Selling Application](#)

Figure 17. Payment With PayPal Account



After clicking on the login customers will get the following figure where Continue is clicked.

### Online Car Selling Application

**Your order summary**

Descriptions	Amount
<a href="#">Skoda Octavia</a> Item price: \$2,000.00 Quantity: 1	\$2,000.00
<a href="#">Toyota Corolla</a> Item price: \$2,500.00 Quantity: 1	\$2,500.00
<a href="#">Mercedes benz</a> Item price: \$2,000.00 Quantity: 1	\$2,000.00
<b>Item total</b>	<b>\$6,500.00</b>
	<b>Total \$6,500.00 USD</b>

**Review your information**

[Continue](#)

**Shipping address** [Change](#)

Ripon Mondal  
Olympiakatu 12 C4  
Vaasa, Vaasa  
65100  
Finland  
Note to seller: [Add](#)

**Payment methods** [Change](#)

PayPal Balance \$6,500.00 USD

■ PayPal gift card, certificate, reward, or other discount [Redeem](#)  
View [PayPal policies](#) and your payment method rights.

**Contact information**  
rmondal15@gmail.com

[Continue](#)

You're almost done. You will confirm your payment on Online Car Selling Application.

Figure 18. Payment with PayPal Account

### 4.2.6.3 Payment without PayPal Account


When the customers do not have any PayPal account the customers need to click 'Pay with your debit or credit' link. After clicking and 'Pay with your debit or credit' link, it will move to the customer details page where customers have to fill in all information very carefully and also have to put bank card number and csc number. After putting all information correctly then it will show the agree and continue button, clicking which will move the system to the next step. The figure is given below

## Online Car Selling Application

### Your order summary

Descriptions	Amount
Skoda Octavia Item price: \$2,000.00 Quantity: 1	\$2,000.00
Toyota Corolla Item price: \$2,500.00 Quantity: 1	\$2,500.00
Mercedes benz Item price: \$2,000.00 Quantity: 1	\$2,000.00
<b>Item total</b>	<b>\$6,500.00</b>
	<b>Total \$6,500.00 USD</b>

### Choose a way to pay

[Pay with my PayPal account](#)


Log in to your account to complete the purchase





#### Create a PayPal account

And pay with your debit or credit card

[Learn more about PayPal](#) - the faster, safer way to pay.

Country United States

Card number

Payment types





Expiration date

mm

yy

CSC

What is this?

Billing information

First name

Last name

Address line 1

Address line 2 (optional)

City/State

ZIP code

Shipping address
☒ Same as billing address

Contact information

Phone type Mobile

Why is this needed?

Phone number 555-555-1234

Email

Choose a PayPal password

8 characters minimum


Re-enter password

☐ Yes, I've read and agree to the following:

- PayPal's [User Agreement](#), [Privacy Policy](#), and [Acceptable Use Policy](#).
- The [Electronic Communications Delivery Policy](#). I understand that PayPal will provide me with information about my account electronically. I confirm that I can access emails, web pages, and PDF files.

Click **Agree and Continue** to complete your purchase and create your PayPal account. Please review your information to make sure that it is correct.

[Agree and Continue](#)

Payments processed by 

[Cancel and return to Online Car Selling Application.](#)

Figure 19. Payment without PayPal Account

#### 4.2.6.4 Order Review

After completing any the option customer will visit the following page that is called Order review page. In this page customers will be able to see details of their order with their shipping address. After checking the order review then they can click on Complete order button. Finally they will be able to see the thanks message.

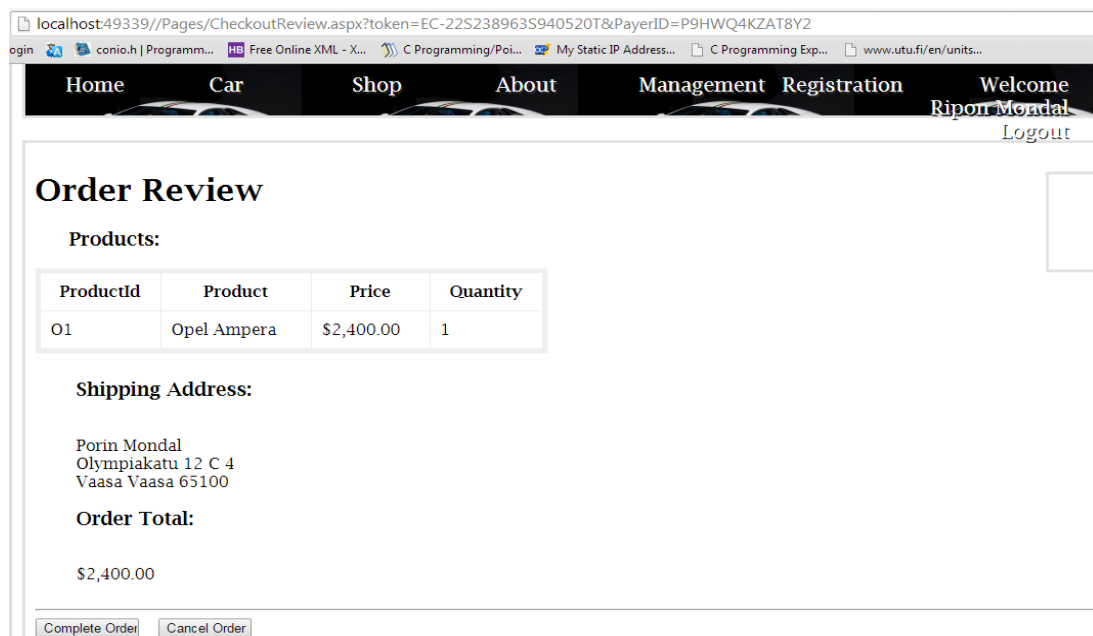


Figure 20. Order Review

#### 4.2.6.5 Complete Order

After checking the order review then 'Complete order'. Then the thanks message will show that is thanks for using our products and payment transaction id that is sent by PayPal. The transaction id will be saved at OderDetails table in the database. If the order review is not OK, then 'Cancel order' is clicked. 'Cancel order' will show the shopping cart page. The result for complete order is given below.



## 5. IMPLEMENTATION

### 5.1 Description

The online car selling application based on shopping system had to be implemented with visualization functionalities on both the consumer and administration interface. Since customers are making order so the order functionalities of customers and the editing, updating and deleting functionalities of administrator and the functionalities of SQL database are concentrated on ASP.NET on C#.

### 5.2 Implemented Function

In the project there are two types of implementation one is the client interface and another is the administrator interface. The customer interface is based on ASP.NET which depends on Visual Studio C#. What functions have been used are mentioned in the class diagram and sequence diagram. The class diagram and sequence diagram have been given in above.

#### 5.2.1 Client Login

To login as a client in the project Login1.aspx and Login1.aspx.cs files were used which are for user input and ConnectionClass.cs file for making connection with the database. The function to connection with the database is given below.

```
public static User UserLogin(string Username , string Password)
{
    //Check if user exists
    string query = string.Format("SELECT COUNT(*) FROM Registration WHERE
Username='{0}'", Username);
    command.CommandText = query;

    try
```

```

{
    conn.Open();
    int amountOfUsers = (int)command.ExecuteScalar();
    if (amountOfUsers > 0)
    {
        //User exists, check if the passwords match
        query = string.Format("SELECT Password FROM Registration WHERE
Username='{0}'", Username);
        command.CommandText = query;
        string dbPassword = command.ExecuteScalar().ToString();

        if (Password.Equals(dbPassword))
        {
            //Password match. Password and Login are known to us.
            //Retrieve further user data from database
            query = string.Format("SELECT Email, User_Type, Name,
ConfirmPassword, Address, State, Country FROM Registration WHERE Username='{0}'",
Username);
            command.CommandText = query;
            SqlDataReader sdr = command.ExecuteReader();
            User user = null;
            while (sdr.Read())
            {
                string Email = sdr.GetString(0);
                string User_Type = sdr.GetString(1);
                string Name = sdr.GetString(2);
                string ConfirmPassword = sdr.GetString(3);
                string Address = sdr.GetString(4);
                string State = sdr.GetString(5);

                string Country = sdr.GetString(6);
                user = new User(Name, Username, Password, ConfirmPassword, Address,
State, Country, Email, User_Type);
            }
        }
    }
}

```

```

        }
        return user;
    }
    else
    {
        //Password does not match
        return null;
    }
}
else
{
    return null;
}
}
finally
{
    conn.Close();
}
}

```

#### Snippet 2. Code for User login

From the above code we can say that this code is making connection with the database. Since the username and password are saved in the database, after entering the username and password it will check if it is correct or not. After checking if they exist, it will show the welcome message. If the username and password are not correct then the login failed. From the following code we see the result.

```

protected void btnLogin_Click(object sender, EventArgs e)
{
    User user = ConnectionClass.UserLogin(txtUsername.Text,
txtPassword.Text);

    if (user != null)
    {
        Session["Username"] = user.Name;
    }
}

```

```

        Session["User_Type"] = user.User_Type;

        //starts
        if (user.User_Type.Trim().Equals("Admin"))
        {
            Response.Redirect("~/InformationPage.aspx");
        }
        else
        {
            Response.Redirect("~/Pages/Shop.aspx");
        }

        //ends
    }

    else
    {
        lblError.Text = "Login failed, Check again!!";
    }
}
}

```

Snippet 3. Code for User Type

## 5.2.2 Available Product or Cars

In the Online Car Selling Application to see the available cars Car.aspx and Car.aspx.cs files were used. The following codes are making table for cars information.

```

private void FillPage()
{
    ArrayList carList = new ArrayList();

```



```

if (!IsPostBack)
{
    carList = ConnectionClass.GetCarByModel("");
}
else
{
    carList = ConnectionClass.GetCarByModel(DropDownList1.SelectedValue);
}

StringBuilder sb = new StringBuilder();

foreach (CarTbl carTbl in carList)
{
    sb.Append(string.Format(@"<table class='CarTable'>

        <tr>
            <td rowspan='9' width='150px'><img runat='server' src='{ 10}' /></td>
            <td width='50px'>CarName: </td>
            <td>{0}</td>
        </tr>

        <tr>
            <td>Model: </td>
            <td>{1}</td>
        </tr>

        <tr>
            <td>EngineSize: </td>
            <td>{2} L</td>
        </tr>

        <tr>
            <td>Price: </td>
            <td>{3} €</td>

```

</tr>

<tr>

<td>Warrenty: </td>

<td>{4} year</td>

</tr>

<tr>

<td>Country: </td>

<td>{5}</td>

</tr>

<tr>

<td>Mileage: </td>

<td>{6} km</td>

</tr>

<tr>

<td>NumberOfCars: </td>

<td>{7}</td>

</tr>

<tr>

<td>ProductId: </td>

<td>{8}</td>

</tr>

<tr>

<td>Review: </td>

<td>{9}</td>

</tr>

```

        <tr>
            <td columnSpan='2'>{ 10}</td>
        </tr>

    </table>", carTbl.CarName, carTbl.Model, carTbl.EngineSize, carTbl.Price,
    carTbl.Warrenty, carTbl.Country, carTbl.Mileage, carTbl.NumberOfCars,
    carTbl.ProductId, carTbl.Review, carTbl.Image));

    lblOutput.Text = sb.ToString();
}
}

```

#### Snippet 4. Code for available cars

The following code is making connection to the database that helps to store data in the database,

```

public static void AddCar(CarTbl carTbl)
{
    string query = string.Format(
        @"INSERT INTO CarDatabase VALUES ('{0}', '{1}', '{2}', @prices, '{3}', '{4}',
        '{5}', '{6}', '{7}', '{8}', '{9}')" ,
        carTbl.CarName, carTbl.Model, carTbl.EngineSize, carTbl.Warrenty, carTbl.Country,
        carTbl.Image, carTbl.Mileage, carTbl.NumberOfCars, carTbl.ProductId, carTbl.Review);

    command.CommandText = query;
    command.Parameters.Add(new SqlParameter("@prices", carTbl.Price));

    try
    {
        conn.Open();
        command.ExecuteNonQuery();
    }
}

```

```

        // conn.Close();
    }
    finally
    {
        conn.Close();
        command.Parameters.Clear();
    }
}

```

Snippet 5. Code for adding car

### 5.2.3 Client Registration

Before login every client has to register first, after registering all the information will be stored in the database. When clients try to log in it will check through the database for visiting. For registration Registration.aspx.cs file user input and ConnectionClass.cs class file were used for making connection to the database. The possible code is given below.

```

public static string RegisterUser(User user)
{
    //check users exist
    string query = string.Format("SELECT COUNT(*) FROM Registration WHERE
Username='{0}'", user.Username);
    command.CommandText = query;
    try
    {
        conn.Open();
        int amountOfUsers = (int)command.ExecuteScalar();
        if (amountOfUsers < 1)
        {

```

```

//User does not exist, create a new user
query = string.Format("INSERT INTO Registration VALUES ('{0}', '{1}', '{2}',
'{3}', '{4}', '{5}', '{6}', '{7}', '{8}')", user.Name, user.Username, user.Password,
user.ConfirmPassword,
user.Email, user.Address, user.State, user.Country, user.User_Type);
command.CommandText = query;
command.ExecuteNonQuery();
return "User registered!";
}
else
{
return "User already exists!!!";
}
}
finally
{
conn.Close();
command.Parameters.Clear();
}
}

```

Snippet 6. Code for Registration

### 5.2.4 Payment by using PayPal

When a person wants to send or request money, the PayPal authority will check only the person's email address, date of sign up after that the person has to fulfill the requirements of PayPal technology meaning the person has to complete the PayPal 's verification by confirming an account. Then the receiver will never be able to see the consumer's financial information. Now we see the implementation of PayPal code.

In the project a class name NVPAPICaller has been declared where declared most the PayPal functionality have been declared. Such as ShortcutExpressCheckout, GetCheckoutDetails, DoCheckoutPayment, buildCredentialsNVPString inside the class there are three kinds of variables such as flag, live string and sandbox string. /3/

```
//Flag
private const bool bSandbox = true;
private const string CVV2 = "CVV2";

// Live strings.
private string pEndPointURL = "https://api-3t.paypal.com/nvp";
private string host = "www.paypal.com";

// Sandbox strings.
private string pEndPointURL_SB = "https://api-3t.sandbox.paypal.com/nvp";
private string host_SB = "www.sandbox.paypal.com";
private const string SIGNATURE = "SIGNATURE";
private const string PWD = "PWD";
private const string ACCT = "ACCT";
```

The flag determines the PayPal environment. By using a facilitator (user) account we have found the values of APIUsername, APIPassword and APISignature from the PayPal sandbox which are very crucial for to the programmer. In the sandbox string Merchants API credentials have been added; here I have used my API credentials.

HttpWebRequest timeout is defined in millisecond

```
private const int Timeout = 15000;
```

After that a method name ShortcutExpressCheckout was declared with some arguments, this method will be connected with the shopping cart. When the user will choose the product from the shopping cart, it will send it to the PayPal web site. The ShortExpressCheckout method includes placing check out with the PayPal button on our product which is in the shopping cart pages. The consumer only has a right to inspect the payment information and confirm the purchase, as the client's shipping

address, email and telephone and contact details are undoubtedly supplied by the PayPal. But shipping address is supplied by PayPal. When a consumer handles the shopping cart and intends to check out the PayPal payment will start to progress. By using check out with the PayPal button, the client will promptly be redirected to the PayPal website. The method is shown below,

```
public bool ShortcutExpressCheckout(string amt, ref string token, ref string retMsg,
List<Order> myOrderList)
{
    if (bSandbox)
    {
        pEndPointURL = pEndPointURL_SB;
        host = host_SB;
    }
    string returnUrl = "http://localhost:49339/Pages/CheckoutReview.aspx";
    string cancelURL = "http://localhost:49339/Pages/CheckoutCancel.aspx";
```

#### Snippet 7: Code for Payment

For receiving and sending information in the project we have used two object variables encoder and decoder where encoder will send information to the PayPal from our web page and another object decoder will be used to receive returned information from PayPal. Especially ShortcutExpressCheckout method is used to collect the consumer items information and product details from the shopping cart. After that **SetExpressCheckout** PayPal function is called. Then I have acknowledged another method **GetCheckoutDetails** that confirms the consumer details and then calls **GetExpressCheckoutDetails** function that is being used for responding from Paypal.com. **GetExpressCheckoutDetails** is a request method. Finally I have added **DoCheckoutPayment** method that being utilized to complete the purchase items from the shopping cart whatever is used by calling **DoExpressCheckoutPayment** paypal function.

## 6. TESTING THE APPLICATION

After building the application we needed to test it for perfect functioning, which is very essential for customer satisfaction. Not only for customer satisfaction but also accuracy is very important for applying. As mentioned earlier two interfaces were used in the project that is user interface and administrator interface.

### 6.1 Client Login

After completing the registration any client can login in the Online Car Selling application. To log in first Login from the option bar has to be clicked then the username and password have to be entered and login clicked. Without putting the username and password it will show 'please enter your username and password'. The result is shown below.

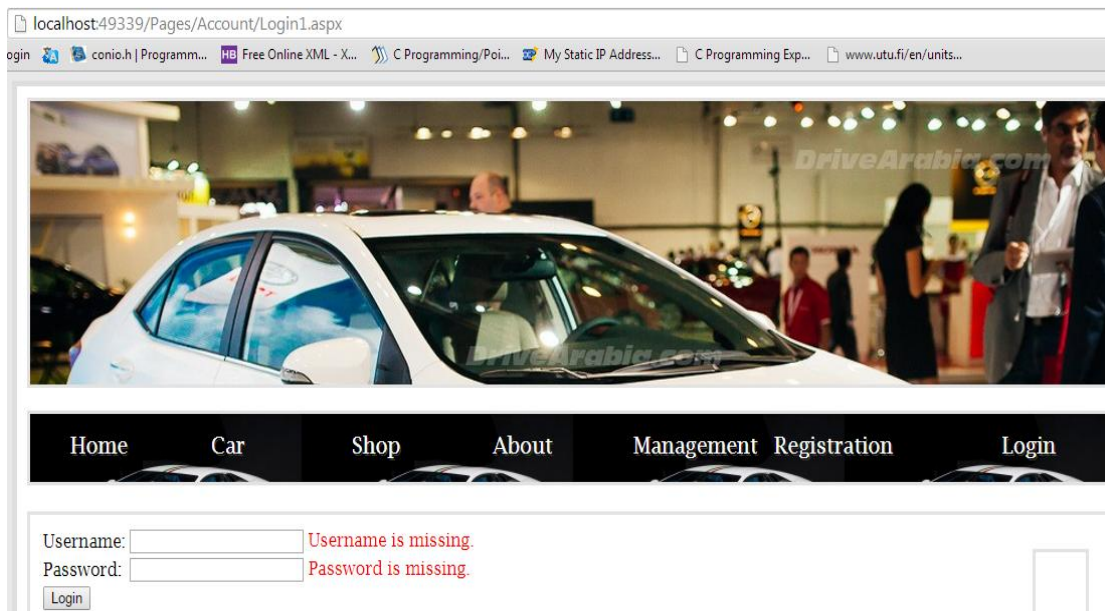


Figure 23. Login Testing



If a wrong username and password is entered, it will show login failed, check again. The result is given below.

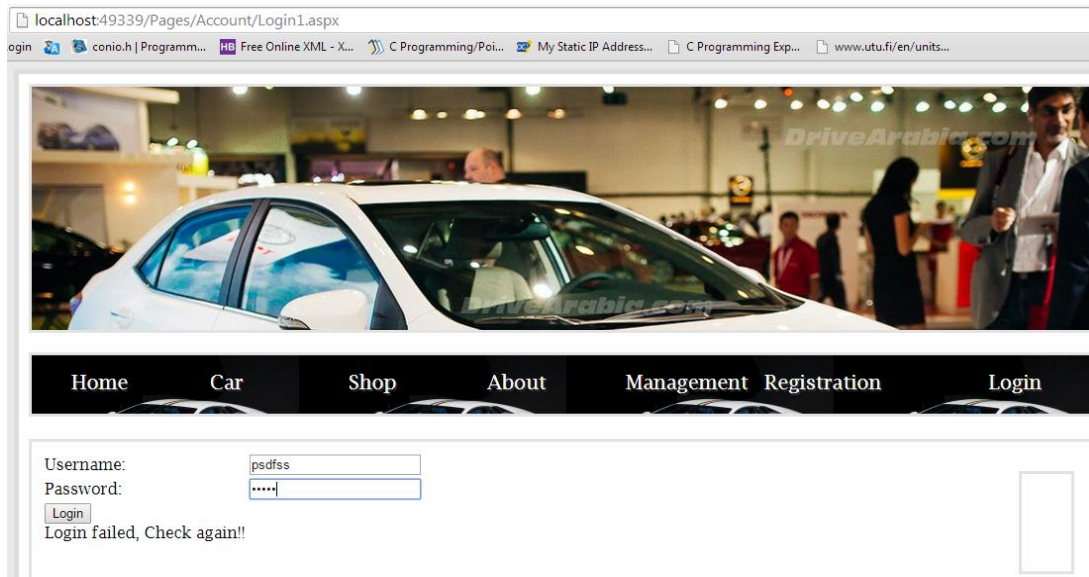


Figure 24. For wrong username or password

When the username and password are correct, a welcome message is received with the name of the customer according to registration

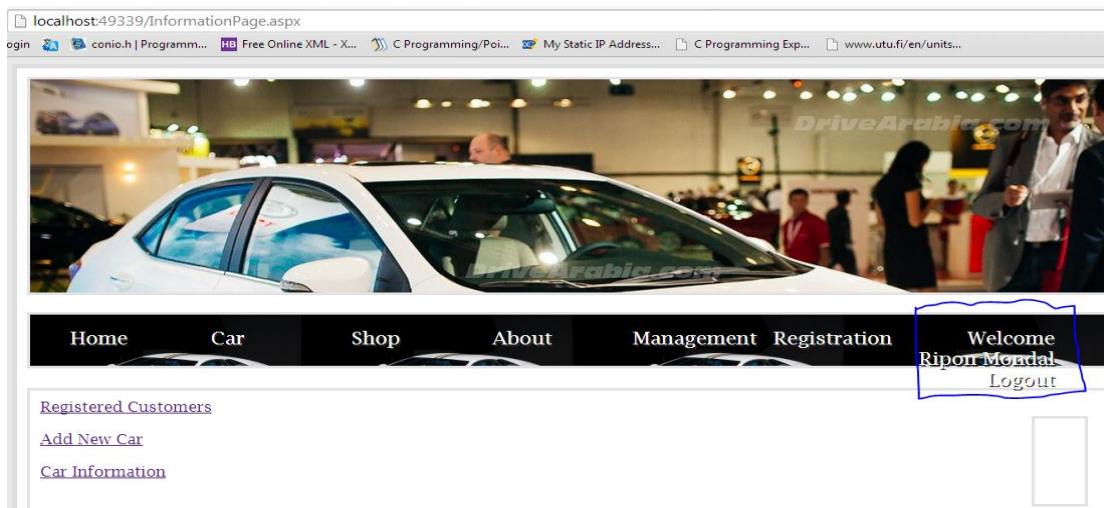
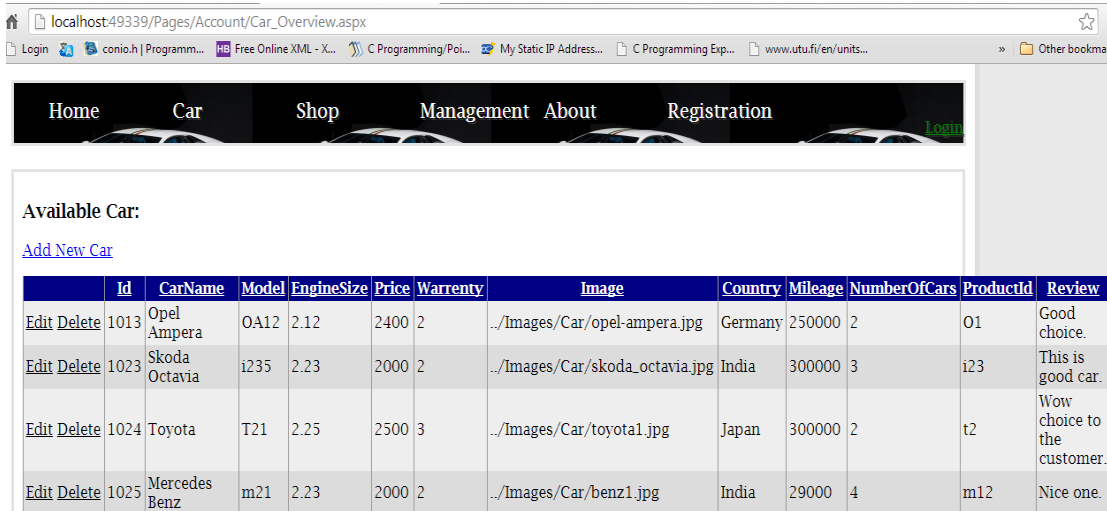


Figure 25. Login Testing

## 6.2 Car Adding Testing

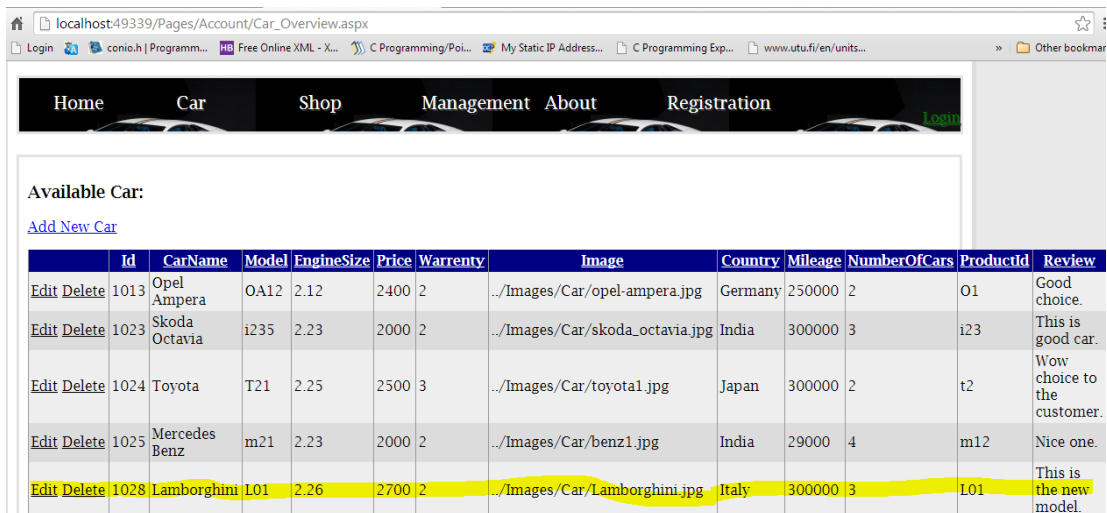
Adding a new car is only possible by the administrator. Only the administrator can delete car, edit and update car information. Available cars can be seen in the following figure.



	Id	CarName	Model	EngineSize	Price	Warrenty	Image	Country	Mileage	NumberOfCars	ProductId	Review
<a href="#">Edit</a> <a href="#">Delete</a>	1013	Opel Ampera	OA12	2.12	2400	2	../Images/Car/opel-ampera.jpg	Germany	250000	2	O1	Good choice.
<a href="#">Edit</a> <a href="#">Delete</a>	1023	Skoda Octavia	i235	2.23	2000	2	../Images/Car/skoda_octavia.jpg	India	300000	3	i23	This is good car.
<a href="#">Edit</a> <a href="#">Delete</a>	1024	Toyota	T21	2.25	2500	3	../Images/Car/toyotal.jpg	Japan	300000	2	t2	Wow choice to the customer.
<a href="#">Edit</a> <a href="#">Delete</a>	1025	Mercedes Benz	m21	2.23	2000	2	../Images/Car/benz1.jpg	India	29000	4	m12	Nice one.

Figure 26. Available car

One extra car named Lamborghini has been added. See Figure 27.



	Id	CarName	Model	EngineSize	Price	Warrenty	Image	Country	Mileage	NumberOfCars	ProductId	Review
<a href="#">Edit</a> <a href="#">Delete</a>	1013	Opel Ampera	OA12	2.12	2400	2	../Images/Car/opel-ampera.jpg	Germany	250000	2	O1	Good choice.
<a href="#">Edit</a> <a href="#">Delete</a>	1023	Skoda Octavia	i235	2.23	2000	2	../Images/Car/skoda_octavia.jpg	India	300000	3	i23	This is good car.
<a href="#">Edit</a> <a href="#">Delete</a>	1024	Toyota	T21	2.25	2500	3	../Images/Car/toyotal.jpg	Japan	300000	2	t2	Wow choice to the customer.
<a href="#">Edit</a> <a href="#">Delete</a>	1025	Mercedes Benz	m21	2.23	2000	2	../Images/Car/benz1.jpg	India	29000	4	m12	Nice one.
<a href="#">Edit</a> <a href="#">Delete</a>	1028	Lamborghini	L01	2.26	2700	2	../Images/Car/Lamborghini.jpg	Italy	300000	3	L01	This is the new model.

Figure 27: Testing to add new car

There are five items of cars, such as Opel Ampera, Skoda Octava, Toyota, Mercedes Benz and Lamborghini. We have deleted the Mercedes Benz. After deleting the Mercedes Benz the window is as follows.



Available Car:

[Add New Car](#)

	<a href="#">Edit</a>	<a href="#">Delete</a>	<a href="#">Id</a>	<a href="#">CarName</a>	<a href="#">Model</a>	<a href="#">EngineSize</a>	<a href="#">Price</a>	<a href="#">Warrenty</a>	<a href="#">Image</a>	<a href="#">Country</a>	<a href="#">Mileage</a>	<a href="#">NumberOfCars</a>	<a href="#">ProductId</a>	<a href="#">Review</a>
<a href="#">Edit</a>	<a href="#">Delete</a>	1013	Opel Ampera	OA12	2.12	2400	2		../Images/Car/opel-ampera.jpg	Germany	250000	2	O1	Good choice.
<a href="#">Edit</a>	<a href="#">Delete</a>	1023	Skoda Octavia	i235	2.23	2000	2		../Images/Car/skoda_octavia.jpg	India	300000	3	i23	This is good car.
<a href="#">Edit</a>	<a href="#">Delete</a>	1024	Toyota	T21	2.25	2500	3		../Images/Car/toyota1.jpg	Japan	300000	2	t2	Wow choice to the customer.
<a href="#">Edit</a>	<a href="#">Delete</a>	1028	Lamborghini	L01	2.26	2700	2		../Images/Car/Lamborghini.jpg	Italy	300000	3	L01	This is the new model.

Figure 28. After deleting an item

### 6.3 Coming up Plan

Nothing is steady in this world so the Online Car Selling application will be moved forward to the changing time. By using social network such as Face-book or Twitter will encourage the simplification of the user registration that will contribute huge opportunity to the users.

## 7. CONCLUSIONS

Online Car Selling Application can be a very good technology to the consumers for checking and buying their sustainable car. People of the modern world are more interested to purchase their products online. It may be very simple to purchase a car also. Gradually people are depended on the online marketing to buy their different products for instance now-a-days they are buying their cars and many other things by using online marketing. The internet has become a major resource throughout the world for online shopping.

When completing this project I have learnt many things, for example how to find out the problem and how to solve those problems which is very important for me? To use PayPal technology with my project is a very challenging. During the compilation and running the project I have faced many difficulties. However I have studied more and tried to solve those problems. After solving the difficulties my confidence has grown and is helping me to move forward. This kind of confidence will help me to build up my future carrier.

By using online marketing system people are visiting different web sites very easily and within a very short time. E-Commerce business is growing up throughout the world. Nowadays the internet has become a major resource in the modern business so E-Commerce has gained popularity and reached top level in the business world. Online Car Selling is one of them. There are some people who are always trying to stay online for few seconds to check online shop. Sometimes the online shopping companies are offering discount and the online customers use those opportunities. It is possible to catch this kind of opportunity by using internet. The Online Car Selling application by using PayPal is familiar to the consumer day by day. By using Online Car Selling application customers save their valuable time, it very fast and cheap also. You do not need to visit the company physically just spend a couple of minutes online then you can select your desired product from the shopping cart and pay the bill by using the company's payment system which is totally dependent on PayPal.

In the project, the client is provided with an e-commerce web site which can be used to buy a car by using PayPal for payment. It was developed by using ASP.NET in C# and SQL database. By using the consumers' username and password, the user can log in because after registering all information has saved into the SQL database already. The administrator has right to access in every page in the Online Car Selling Application.

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